

IN THE CLAIMS

The currently pending claims are as follows:

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1. (Previously Presented) A method comprising:
sending a message from a local device to a remote device, via a network, said message including a transport header indicating a message type;
determining, at the remote device, whether the transport header of said message identifies the message as a remote Direct Memory Access (rDMA) read operation; and
performing a remote Direct Memory Access (rDMA) write operation at the local device in accordance with data elements included in said message, if the transport header of said message identifies the message as said remote Direct Memory Access (rDMA) read operation.
 2. (Previously Presented) The method as claimed in claim 1, wherein the data elements in said rDMA read message identify a set of source buffers in the remote device which reference a remote memory in the remote device and a set of destination buffers in the local device that reference a local memory in the local device.
 3. (Previously Presented) The method as claimed in claim 2, wherein the source buffers and destination buffers are registered with a Virtual Interface (VI) network interface controller of the remote device and the local device, respectively.
 4. (Previously Presented) The method as claimed in claim 3, wherein the data elements of the rDMA read message specify the source buffers and destination buffers as multiple data segments with offsets and designate a channel of the Virtual Interface (VI) as a data path for the rDMA write operation.

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5. (Previously Presented) The method as claimed in claim 4, wherein one data element of the rDMA read message specifies a last data segment and completion of the rDMA read request.

6. (Previously Presented) The method as claimed in claim 5, wherein the data is read from the remote memory of the remote device directly into the local memory of the local device over the Virtual Interface (VI), without making an intermediate copy of the data.

7. (Previously Presented) The method as claimed in claim 6, wherein the remote device builds virtual interface rDMA write descriptors with a sequence inserted into an immediate data field on a last data segment of each rDMA read request.

8. (Previously Presented) The method as claimed in claim 7, wherein the completion of the data transfer is processed at the local device, based on the immediate data that arrives with the last data segment of each rDMA write operation by the remote device.

9. (Previously Presented) A network device initiating a method to read data in a remote memory of a remote device directly into a local memory, said network device having a network interface controller (NIC) configured to perform the following:

receiving a message from the remote device, via a network, said message including a transport header indicating a message type;

processing said message to determine whether the transport header of said message identifies the message as a remote Direct Memory Access (rDMA) read operation; and

performing a remote Direct Memory Access (rDMA) write operation in accordance with data elements included in said message, if the transport header of said message identifies the message as said remote Direct Memory Access (rDMA) read operation.

10. (Previously Presented) The network device as claimed in claim 9, wherein the data elements in said rDMA read message identify a set of source buffers in the remote device which reference a remote memory in the remote device and a set of destination buffers in the local device that reference a local memory in the local device.

11. (Previously Presented) The network device as claimed in claim 10, wherein the source buffers and destination buffers are registered with the network interface controller (NIC) of the remote device and the network device, respectively.

12. (Previously Presented) The network device as claimed in claim 11, wherein the data elements of the rDMA read message specify the source buffers and destination buffers as multiple data segments with offsets and designate a channel of a Virtual Interface (VI) as a data path for the rDMA write operation.

13. (Previously Presented) The network device as claimed in claim 12, wherein one data element of the rDMA read message specifies a last data segment and completion of the rDMA read request.

14. (Previously Presented) The network device as claimed in claim 13, wherein the data is read from the remote memory of the remote device directly into the local memory of the network device over the Virtual Interface (VI), without making an intermediate copy of the data.

15. (Previously Presented) The network device as claimed in claim 14, wherein the remote device builds rDMA write descriptors with a sequence inserted into an immediate data field on the last data segment of each rDMA read request.

E1 16. (Previously Presented) The network device as claimed in claim 15, wherein the completion of the data transfer is processed based on immediate data that arrives with the last data segment of each rDMA write operation by the remote device.

17. (Previously Presented) A tangible medium storing a plurality of program instructions, which, when executed by a processor installed in a network device causes the network device to perform the following:

receiving a message from a remote device, via a network, said message including a transport header indicating a message type;

processing said message to determine whether the transport header of said message identifies the message as a remote Direct Memory Access (rDMA) read operation; and

performing a remote Direct Memory Access (rDMA) write operation in accordance with data elements included in said message, if the transport header of said message identifies that the message is said remote Direct Memory Access (rDMA) read operation.

18. (Previously Presented) The tangible medium as claimed in claim 17, wherein the data elements of the rDMA read message identify a set of source buffers in the remote device which reference a remote memory and a set of destination buffers in the network device that reference a local memory.

19. (Previously Presented) The tangible medium as claimed in claim 18, wherein the source buffers and destination buffers are registered with network interface controller (NIC) of the remote device and the network device, respectively.

20. (Previously Presented) The tangible medium as claimed in claim 19, wherein the data elements of the rDMA read message specify the source buffers and destination buffers as multiple data segments with offsets and designate a channel of a Virtual Interface (VI) as a data path for the rDMA write operation.

E1 21. (Previously Presented) The tangible medium as claimed in claim 20, wherein one data element of the rDMA read message specifies a last data segment and completion of the rDMA read request.

22. (Previously Presented) The tangible medium as claimed in claim 21, wherein the data is read from the remote memory of the remote device directly into the local memory of the network device over a Virtual Interface (VI), without making an intermediate copy of the data.

23. (Previously Presented) The tangible medium as claimed in claim 22, wherein the remote device builds virtual interface rDMA write descriptors with a sequence inserted into an immediate data field on the last data segment of each rDMA read request.

24. (Previously Presented) The tangible medium as claimed in claim 17, wherein the completion of the data transfer is processed based on the data that arrives with the last data segment of each rDMA write operation by the remote device.
